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Educational Resources Allocation System Task Force

Working Paper No.6

*E.R.A.S. in Practice:
The Development and
Implementation of a
Systematic Decision-
Making Process*

December 1974

Preface

The purpose of this working paper is twofold:

1. to provide an overview of the activities that have been considered and undertaken in a number of school systems working co-operatively with the task force in pilot projects;
2. to demonstrate that, as important as the individual components of resource allocation are, these components become even more significant and useful when they are integrated in a decision-making system.

Towards this end, this paper describes the rationale and goals for the pilot projects, the organization of the projects, the extent and nature of people's involvement in project activities, the means employed to attain the goals, and the achievements to date.

Since the projects are an attempt to apply those concepts of resource allocation outlined in Working Papers 1 - 5, it may be useful for the reader to consult these first five working papers or to have them available for reference when perusing this paper.

After examination of the various overviews that follow, some readers may seek additional insights into specific points raised by a particular overview. The task force asks that any queries or comments related to this paper be directed in writing to the E.R.A.S. Task Force, 21st floor, Mowat Block, Queen's Park, Toronto, Ontario, M7A 1L2.

The task force intends that this working paper stimulate thought, discussion, and interest in the concept of resource allocation. In conjunction with the other task force documents, this paper offers (a) an additional basis for understanding what a systematic decision-making process is, and (b) a variety of possible approaches for the development and implementation of such a process.

The contents of this working paper are divided into three sections:

1. a brief review and explanation of the systematic decision-making process entitled an educational resources allocation system;
2. descriptions of several pilot projects;
3. a summary of some of the findings of the pilot projects.

An Overview of a Resource Allocation Model

An educational resources allocation system is an approach to decision making. Its purpose is to assist educators in using those resources available to them in order to create and conduct effective learning experiences for students.

Working Paper No. 5, entitled *The Initial Stage in Implementing an E.R.A.S.*, has defined an E.R.A.S. model as a systematic, integrated, and cyclical process with the following characteristics:

—Written statements of philosophy and intentions are used to guide the development of activities and the assessment of the success of these activities.

—These activities (educational and supporting) are identified and described in terms of their relationship to each other and to the philosophy and intentions.

—Evaluation is regularly undertaken of:
a) the philosophy and intentions, to see that they are useful and that they relate to student learning requirements;
b) the activities, to see if they are achieving the desired learning results;
c) the evaluation procedures themselves—What is to be evaluated? When? How? By whom?
d) the nature and extent of the use of available resources. The information obtained from evaluation is used in the making of decisions regarding (a), (b), (c), and (d), above.

—Financial expenditures are reported on the basis of the activities that have been identified and described.

—When it appears that some improvement in an activity is needed, the exact nature of the improvement is defined in terms of the stated philosophy and intentions and its importance relative to all other activities.

—A variety of ways to bring about the desired improvement are considered. This consideration would include:

- a) the *creative* exercise of proposing changes in activities;
- b) the *analytical* exercise of defining what resources are available and what constraints exist at that time;
- c) the *prognostic* exercise of identifying the possible results of each alternative.

—The most feasible alternative is selected and implemented.

—Budget preparation is considered a part of planning. The budget is influenced by any changes in the activities that have been identified and described and reflects the priorities established for these activities.

—The above conditions exist continuously through subsequent evaluations.

If all of the above conditions exist, the educational personnel involved have developed and are operating a resource allocation system.

A resource allocation system is concerned with (1) decision making, the process of choosing a course of action from among several possibilities, and (2) evaluation, the identification and collection of information that will assist decision makers in selecting courses of action.

To understand the nature of resource allocation systems, it is helpful to consider the processes of both decision making and evaluation, as well as the relationship between the two.

Decision Making

Decision making is the process of choosing a course of action from among a number of alternatives. For example, in deciding which goal statements are most appropriate as guidelines for developing programs, a decision maker attempts to answer the question, "What are the purposes, intents, or goals that the educational program should fulfil?" To find an answer, the decision maker must (1) identify sets of alternative goal statements, (2) identify the criteria to be used in assessing each alternative, (3) apply the criteria to each alternative, then (4) choose the goal statement(s) to guide the educational program.

Including the above question about goals, there are three major types of question that may be addressed to all educational endeavours. These three questions, in turn, identify three types of educational decision. Examples of each of the three types of question include:

Type I

- What should the goals and objectives be for the educational program(s)?
- What growth should students achieve as a result of their participation in the program?
- What are the most important needs that the program should serve?

Type II

- What program—that is, set of activities or services—will be most likely to meet the goals and objectives?
- How should the program be carried out?

Type III

- Is the program successful?

—Should the program be continued, terminated, or modified?

Questions such as these stimulate the processes of decision making, in which alternative courses of action are identified and considered, with one course of action chosen for trial. Decisions made in response to each of the three types of question are known, respectively, as planning decisions, programming decisions, and recycling decisions.

Note that the three-phase model of E.R.A.S. outlined in *An Initial Statement*, Planning—Programming—Evaluation, has been changed to Planning—Programming—Recycling. This has been done so that the concept of evaluation does not appear to be limited to one phase of E.R.A.S., but, instead, permeates all phases. To make improvements in education, we must decide (1) what we are going to do (planning decisions), (2) how we are going to do it (programming decisions), and (3) what action we will take on the basis of results (recycling decisions). Evaluation supports each of these types of decision. The recycling phase, therefore, is concerned with the nature of the results obtained and how these results are used.

Each of the three types of decision making results in certain consequences for the education system. Planning decisions, for example, result in statements of goals and objectives and the establishment of priorities among them for the operation of school jurisdictions. Table I illustrates the relationship among the various types of decision, the questions that stimulate these decisions, and the consequences of decision making.

Table 1: Types of Decisions and Their Consequences

	Types of Decision		
	Planning	Programming	Recycling
Questions that stimulate the decision-making process	<ul style="list-style-type: none"> • What should the goal(s) and objective(s) be for educational programs? 	<ul style="list-style-type: none"> • What possible programs will meet the objectives? • How might these programs be carried out? 	<ul style="list-style-type: none"> • Were the program(s) successful? • Should they be continued, terminated, or modified?
Consequences or results of the decisions	<ul style="list-style-type: none"> • A set of hierarchically ordered goals and objectives 	<ul style="list-style-type: none"> • Activities to meet the goals • A program structure • A plan for operation and implementation • The implementation process itself 	<ul style="list-style-type: none"> • Recommendations for: <ol style="list-style-type: none"> 1. a revision of statements of goals and objectives; 2. a termination, continuation or modification of programs

The three types of decision making are interrelated, in that the consequences of any one type of decision influence the other types of decision. For example, although educational programs are structured and implemented to meet certain educational goals and objectives, practical problems encountered during programming may result in the modification of objectives. Program structures and the plans for their implementation determine the nature and scope of recycling decisions. But these decisions may in turn produce recommendations for revision of the program itself, the methods of implementing the program, and the goals and objectives that guide the program. In this manner, a combination of the three types of decision making forms a system that enables selection from among a variety of educational means and ends.

Evaluation

Anyone who tries to choose a course of action from among a number of alternatives must possess certain kinds of information. This information should provide the decision maker with a knowledge of the alternatives available, the probable consequences of each alternative, and the beliefs and attitudes of people affected by the alternatives. By definition, then,

evaluation is the identification and collection of information that enables a decision maker to select and carry out a course of action.

The questions that stimulate the decision-making process also serve as guides for the evaluation process. Each of the questions in Table 1 may be broken down into a series of more specific questions that guide the evaluator in the collection of appropriate information. Some examples of more specific evaluation questions are presented in Table 2, where they are placed in one of four categories of evaluation. Each evaluation category is related to the type of decision making it supports: context evaluation supports planning decisions; input and process evaluation support programming decisions; product evaluation supports recycling decisions. Table 2 suggests that a person engaged in input evaluation activities might consult the solicitor for a board of education as one of the information sources to answer the question: "Is a given program strategy legal?" Information thus collected would be helpful in the selection of one of a number of available program strategies. In summary, evaluation provides information for decision making.

Table 2: Decision Making and Evaluation

Types of Decision			
Questions to Stimulate Decision Making	Planning	Programming	Recycling
	What are the goals?	What is the program structure? How is it to be implemented?	Is the program successful? Should it be continued?
Kinds of Evaluation Processes	Context	Input	Process
Questions Illustrative of the Evaluation Processes	What unmet needs exist in the context served by the school system?	Does a given program strategy provide a logical response to a set of specified objectives?	Is the project on schedule? Are objectives being achieved?
	What improvement-oriented objectives should be pursued in order to meet identified needs?	Is a given strategy legal?	Should the staff receive in-service training prior to completion of the program?
	What improvement-oriented objectives will receive the endorsement and support of the community?	What strategies already exist that could be used for meeting previously established objectives?	What statements can be made about the relationship between the nature of the program and the attainment of the program?
	Which of a set of objectives can most feasibly be achieved?	Which specific procedures and time schedule will be needed to implement the strategy?	Are the facilities and materials being used adequately and appropriately?
		What are the operating characteristics and effects of alternative strategies?	What are the difficulties to be overcome at this time in the program?
			What is the long-range worth or attainment in relation to the goals of the school system?

Depending on the type of decision to be served (planning, programming, or recycling), evaluation procedures vary in the questions they pursue and the techniques they employ.

The relationship between the types of decision making and categories of evaluation is shown pictorially in Figure 1. This figure, together with the preceding overview, illustrates that there are evaluation processes to support each

of the types of decision making in an E.R.A.S. A distinction is made, therefore, between decision making and evaluation. This distinction has required the substitution of the term "recycling" for the term "evaluation" in the E.R.A.S. model that was presented in *An Initial Statement* (p. 3). This change in terminology is important, because it stresses the role of evaluation within *each* of the phases of an educational resources allocation system.

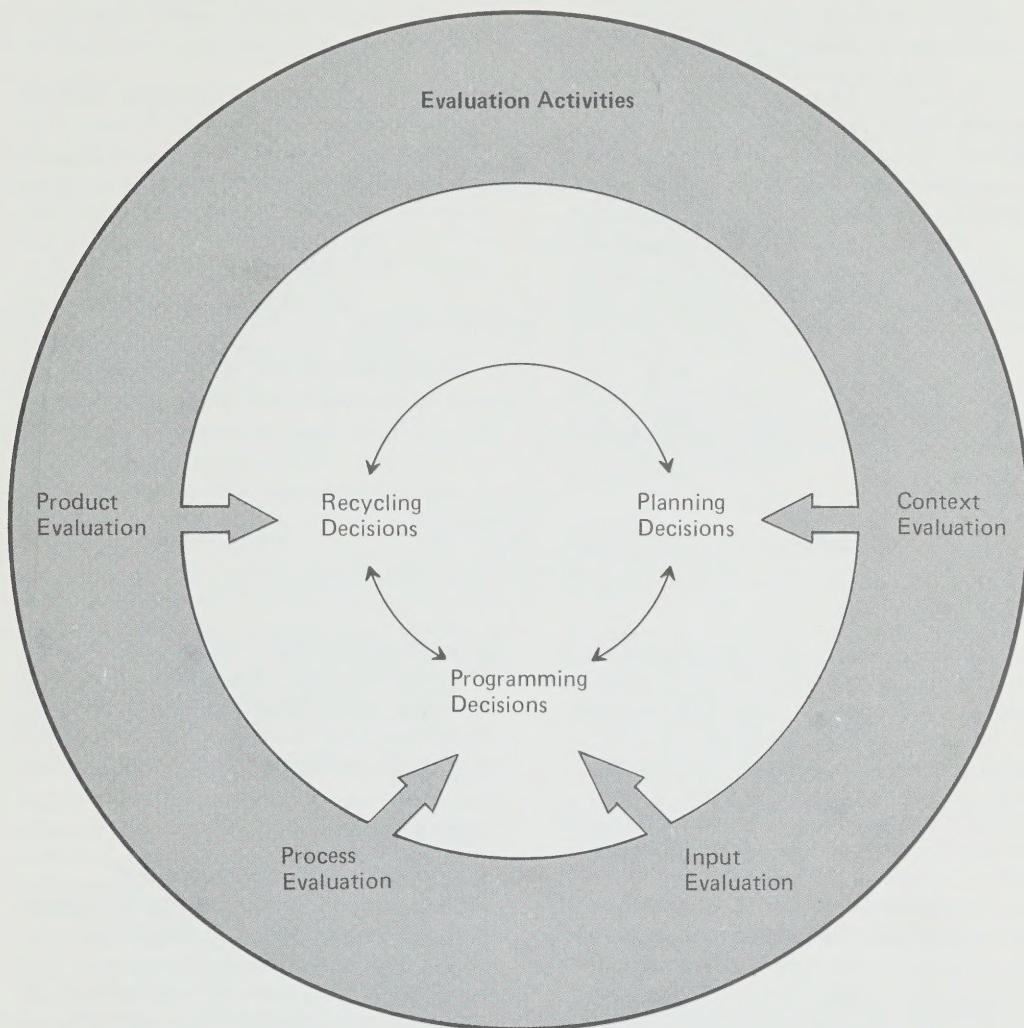


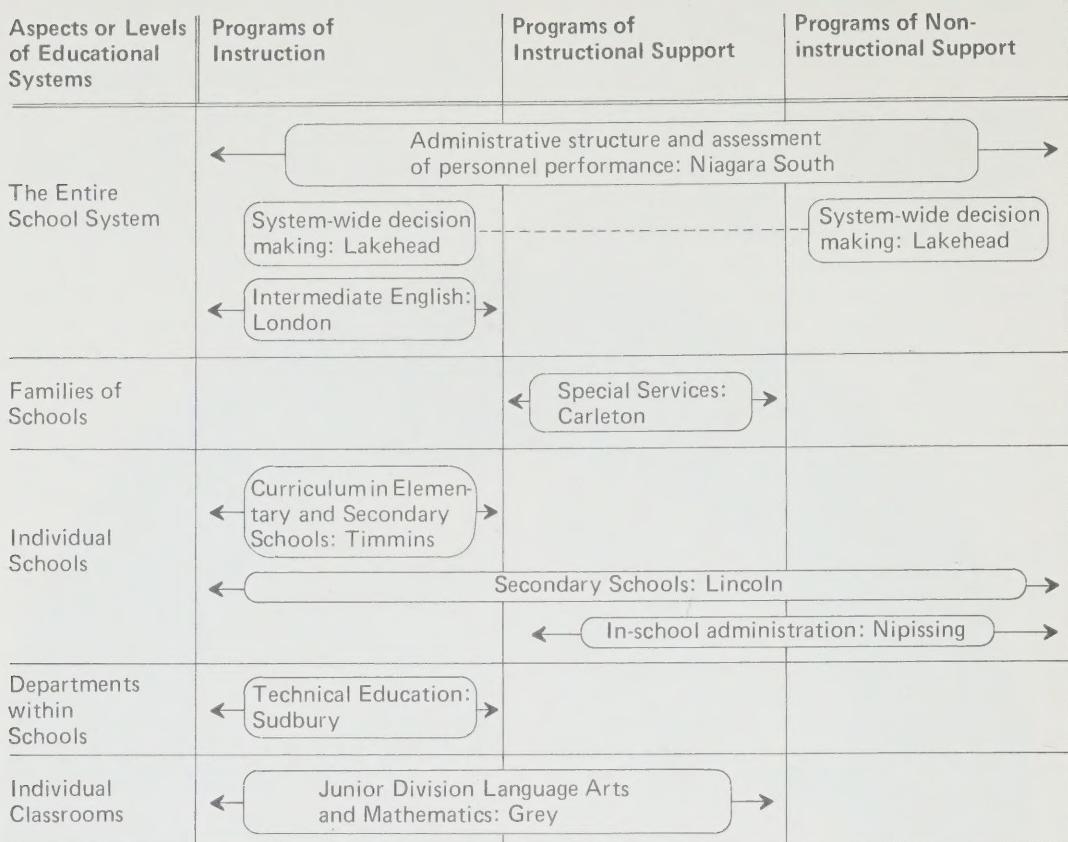
Figure 1: Decision Making and Evaluation as the Basis of an Educational Resources Allocation System

An Introduction to the Pilot Projects

The E.R.A.S. approach to decision making and evaluation may be applied at different levels of an educational system. Planning, programming, and recycling decisions can be used for the entire school system, a family of schools, a single school, a department within a school, or the learning experiences within a single classroom. Decision-making processes may also be applied to programs of instruction, or to programs of instructional and non-instructional support; the activities of subject consultants and plant maintenance personnel are, respectively, examples of instructional and non-instructional support. The various descriptions that follow have been prepared to illustrate the potential that E.R.A.S. concepts offer for improving the quality of educational systems.

Table 3 indicates the range of levels and aspects of educational systems that have been involved in the projects described in this working paper. It indicates, for example, that the project in Intermediate English undertaken by the London Board of Education has as its *major* concern the improvement of the English program throughout the London school system. After examining the descriptions, the reader may find it interesting and useful to speculate about the kinds of educational problems that might be resolved by applying E.R.A.S. concepts to areas of the educational system not represented in Table 3. For example, how might the concepts of planning, programming, recycling, and evaluation be used in issues related to the non-instructional support for families of schools?

Table 3: E.R.A.S. Projects



In another vein the reader, after examining the reports, may wish to consider the implications that E.R.A.S. concepts, applied to one aspect of the school system, might hold for other aspects of the school system. For example, what implications might the work in Intermediate English in London hold for programs of non-instructional support in families of schools served by the board?

Experience with the pilot projects suggests that an E.R.A.S. system is most effective when it is introduced in stages. Thus, in none of the projects did participants attempt to initiate all phases of the E.R.A.S. model (Figure 1) at the same time. The reader may find it informative to assign those project activities that have been completed or are underway to one of the phases of the Figure 1 model, then use such data to speculate about which phase of the model the project might deal with next. For example, the preparation of instructional objectives in the Timmins project is related primarily to context evaluation and planning decisions. Based on personal experience, the reader could consider the ways in which the objectives prepared by the Timmins teachers might influence the form of the program structures in a family of schools.

Thus far we have outlined the general concept

of an educational resources allocation system. The task force hopes that readers will use the following reports to assess and increase their understanding of the E.R.A.S. approach and to consider its usefulness for their own situations.

Pilot Projects

I. Administrative Structure and Assessment of Personnel Performance: Niagara South Board of Education

A task force comprising three area superintendents is undertaking a study of the school system's administrative structure. Throughout this project report, the term *task force* refers to this group of superintendents.

Goals and Objectives of the Project

The goal of the study is the development of a management system for the improvement of instruction in the Niagara South school system. Two major objectives have been identified to guide the task force in pursuing its goal. The first objective is to study the administrative structure of the school system and to recommend changes in it that will help to increase the effectiveness of the educational program. The second objective is to develop proposals for evaluating the performance of personnel in all teaching and non-teaching programs.

A Study of Administrative Structure

The task force began its study of administrative structure by identifying important program areas that all school systems must consider if they are to achieve their aims. Programs of instruction, instructional support, and operational support were identified as important program areas. Each program area comprises a number of educational functions; for example, the instructional program area includes functions such as experiential enrichment classes, program development activities, and evening and summer schools.

The task force next surveyed, by questionnaire, staff members from each of the three program areas to determine which of the educational functions they felt to be most important for an effective school system. Curriculum planning and programs for exceptional children are two of the functions that were given high priority by personnel in all program areas.

Having identified a number of important educational functions, the task force next prepared descriptions of the parts played in the performance of these functions by each of the school system's "work groups". For the purposes of this study, work groups of the school system included the school, the family of schools, the administrative council, the executive council, and the board of trustees. For any educational function, the activities of the work groups can be displayed in a chart, as for example in Figure 2, which shows the scope and sequence of the activities of the work groups that support curriculum planning.

The columns of Figure 2 indicate the scope of activities for the groups; by reading across the columns, one can see the sequence of these activities. For example, school staff members are responsible for preparing statements that describe the school's programs. These statements are reviewed at the family-of-schools level in terms of such criteria as "balance of course offerings" and "consistency with school system objectives". A program is reviewed again at the administrative council level. This second review may result in further program revisions or in the recommendation of changes in the board's policies regarding curriculum planning. Suggested policy changes are considered and consolidated by the director, who presents them to the board for consideration. Finally, the board examines the recommendations and approves changes it feels are appropriate. Thus, the procedural scope and sequence charts provide one method for ensuring that the activities of the various work groups are mutually supportive of the educational functions.

To continue the study, the task force used the scope and sequence charts to identify the activities of all instructional and non-instructional roles within a school system. For example, the scope and sequence chart for curriculum development helped identify the activities of people in such roles as consultant, co-ordinator, and resource teacher.

To this point in the study, therefore, the task force has identified and interrelated a number of programs, functions, work groups, activities, and positions that make up the educational system. As the project continues, the analysis of school system structure is helping the task force to prepare its recommendations for changes in the administrative structure. For example, different administrative structures might be developed by examining the implications of varying the size and composition of the system's administrative council. Alternative methods of organizing the administrative council could result in alternative ways of interrelating the work groups through the scope and sequence of their activities. Upon generating a number of alternatives for the administrative structure, the task force will be able to assess and compare the alternatives in terms of (1) costs of operation, (2) appropriateness in serving the educational goals of the school system, and (3) usefulness in assessing the performance of the school system. The task force will make its recommendations to the board in the form of a series of alternative structures, together with an analysis of the costs and benefits of these alternatives.

Assessment of Personnel Performance

When the task force was formed by the Niagara South Board, one of its goals was to set forth strategies for the evaluation of the effectiveness of the educational program. The task force took the position that the development of assessment strategies and procedures should be based on a consideration of the objectives, functions, and evaluation criteria for personnel in each of the programs currently operating in the system.

The steps taken by the task force to develop a format for personnel evaluation included the following:

- The formation of 56 "job-like" committees to identify the objectives, functions, and assessment criteria appropriate to each committee's job classification. (There were, for example, eight Junior-school teachers' committees and one superintendents' committee within the group of 56 committees.)
- The designing of evaluation procedures for personnel within the committee's job classification, based on the objectives, functions, and assessment criteria produced by the committee.
- The holding of a three-day workshop for the chairmen of all committees to increase their skills in writing objectives and describing programs.

By studying the reports of all committees, the task force has gained considerable insight into the attitudes toward evaluation and the nature of the assessment process itself. This has helped the task force to prepare the format for a personnel assessment process to be known as "Performance Achievement Review" (PAR).

Figure 2: Procedural Scope and Sequence Chart (P.S.S.C.)—Curriculum Planning

School Staff Authority: Principal	*A.F.G. Councils Authority: Supt. of Schools	Administrative Council Authority: Supt. of Program Supt. of Operations	Executive Council Authority: Director	Board
<ol style="list-style-type: none"> 1. Submit draft copy of secondary and elementary program of studies to A.F.G. supt. for approval. 2. Maintain course outlines of all programs offered. 3. Submit copy of all revised course outlines to A.F.G. supt. for approval. 4. Submit staff organization and assignments to A.F.G. supt. for approval. 5. Submit statistical report on secondary student options to A.F.G. supt. 6. Place pupils in appropriate programs. 7. Communicate program changes to parents. 8. Determine specific long-range objectives for individuals and groups. 9. Determine appropriate teaching methods. 10. Maintain student records. 11. Evaluate pupil progress. 12. Report progress to parents. 	<ol style="list-style-type: none"> 1. Maintain a balance of course offerings of secondary programs of study. 2. Maintain a uniformity of basic programs among schools of the A.F.G. 3. Maintain consistency of school programs with Niagara South aims and objectives. 4. Maintain consistency of school programs with ministry outlines. 	<ol style="list-style-type: none"> 1. Review elementary and secondary programs of study offered in the jurisdiction. 2. Identify major inequalities of programming among A.F.G.'s. 3. Identify courses with student enrolment inconsistent with board policy. 4. Direct A.F.G. supt. to make appropriate revisions. 	<ol style="list-style-type: none"> 1. Prepare report to the board on the progress of the jurisdiction to provide equality of educational opportunity. 2. Prepare report on curriculum planning to be included in the annual report to board. 3. Recommend policy changes to board. 	<ol style="list-style-type: none"> 1. Examine and react to report on equality of educational opportunity. 2. Examine and react to annual report. 3. Establish policy changes. 4. Authorize inclusion of estimates for curriculum planning studies and projects in P.S.S.C.—budget preparation.

* Associated Family Group

The PAR process stresses a continuous, constructive, and co-operative exercise between two people (a staff member and an immediate superior) who are accountable for preparing and meeting a set of specific performance objectives. Both parties are concerned with the effectiveness of performance and with follow-up activities for improvement. If the PAR process is to contribute to better programs and to the professional growth of personnel, the task force feels that the assessment process must include two major components: (1) the setting of objectives and criteria; (2) co-operative assessment.

The Setting Of Objectives and Criteria

Each staff member should be given the opportunity to reach some agreement with an immediate superior on the long-term and short-term objectives for the staff member's performance. The objectives should be consistent with the broad educational goals for the Niagara South system. In the case of a teacher, the objectives might be that certain teaching processes be developed and implemented by the teacher. The statements of processes and objectives would then become the basis for criteria by which the teacher's performance could be gauged and conditions established for a review by the teacher and the department head, or the teacher and principal. The same process with minor variations would be used for reviewing the performance and achievement of personnel occupying other roles in the system.

Co-operative Assessment

The setting of objectives, strategies, and criteria should be followed some months later by a formal process of assessment and review. First, a staff member would evaluate his own progress in achieving the objectives. Second, the staff member and the superior would jointly analyse how well the staff member's performance met the established objectives. They would then conclude the assessment and review by preparing a written statement of revised objectives or an outline of the steps considered necessary for bringing about improvement. This co-operative assessment would provide the basis for the next cycle of the PAR.

Although the Performance Achievement Review is not a simple process, the task force feels that it is less biased than traditional methods of inspection. The task force takes the position that PAR can be used to achieve the following evaluation objectives:

- Improve the performance of personnel at all levels by not only examining past performance, but, also specific plans for future improvement.
- Provide answers to questions of concern to staff members in teaching, administrative, and support roles. Such questions might include:

- a) How well am I doing?
- b) In which areas might I improve?
- c) What means for improvement are available to me?
- d) Where can I go from here?

—Develop the professional competencies of all the personnel,

- a) to provide individual staff members with the opportunity of acquiring knowledge and developing the abilities required for promotion to positions of greater responsibility;
- b) provide the system with a source of professionally qualified members for promotion to positions of greater responsibility.

Having prepared a description of the PAR system, the task force has accomplished its second objective. Future efforts will be directed towards completing the study of administrative structure and preparing recommendations for the board of education.

Personnel Performance and Administrative Structure

It is obvious that the work of the 56 committees will help the task force to complete its study of the administrative structure. The description of objectives, functions, and criteria prepared by the committees can be used to refine and expand the procedural scope and sequence charts. This should help the task force to assess the effectiveness of alternative administrative structures and to formulate its recommendations for the board.

Relationship of the Project to the E.R.A.S. Model

In this project the E.R.A.S. model is being applied to the pursuit of each of the major objectives identified by the task force. In the study of administrative structure, project activities have resulted in statements of the interrelationships among certain functions and activities. Such statements provide a description of the program structure for the entire school system, with special emphasis on the administrative sub-program.

Within the E.R.A.S. approach, program structures help personnel to relate educational activities to the goals served by the activities, as well as to the means of assessing the effects of the activities. The results of the study of administrative structure, therefore, should enable the task force to assess the effectiveness of the present administrative structure in serving the goals of the system and to consider methods for co-ordinating a cyclical review of the school system's performance.

In summary, to date the study of administrative structure has focused on the program structure component within the programming section of the E.R.A.S. model. The E.R.A.S. model, in turn, offers suggestions for using the results of the study in areas of decision making related to educational goals and assessment procedures.

The PAR process of personnel performance evaluation was developed as a result of project activities. Each of the 56 committees involved analysed a particular educational role in terms of three questions basic to the E.R.A.S. approach:

- 1) What are people occupying the role expected to do?
- 2) How might role incumbents arrange and carry out activities to meet the expectations?
- 3) How might role incumbents assess the degree to which intentions have been fulfilled?

The answer to any of the questions is dependent on and influenced by answers to the other questions. Therefore, in discussing the objectives, functions, and assessment procedures for a particular role, each committee utilized three components of the E.R.A.S. model as well as the interrelationships among the components. Since the PAR approach is in itself a cyclical process, involving a continuing assessment of objectives, programs, and evaluative criteria, aspects of the E.R.A.S. model were apparent both in the way the committees carried out their tasks, and in the strategy for personnel assessment that resulted from their efforts.

The application of E.R.A.S. concepts to personnel assessment should help the task force to complete its study of administrative structure and to make recommendations to the board. For example, the PAR proposal, developed from a study of instructional and non-instructional roles, should help the task force to formulate recommendations regarding the co-ordination of a continuing cyclical review of the board's administrative structure. The Niagara South project, therefore, provides some evidence of the usefulness of the E.R.A.S. model in the integration of decisions taken at different levels of an educational system.

II. A Framework for System-Wide Decision Making: Lakehead Board of Education

The goal of the Lakehead Board of Education's project is to develop a logical decision-making process, in order to increase the effectiveness of programs for students. Concepts derived from the E.R.A.S. model are being used to help in the analysis of aspects of the educational process and in the formulation of suggestions for improvement. Overall responsibility for the project is vested in a committee of six trustees and the Director of Education.

A planning committee has been established to examine educational goals, objectives, and program structures and to co-ordinate the project. It comprises four principals, two consultants, six teachers, two non-academics, the Superintendent of Business (acting as project co-ordinator), and the Director of Education. A sub-committee of eight teachers and the project co-ordinator has been set up to develop general guidelines for the evaluation of programs. The planning committee intends to make recommendations to the board by September of 1975 on an educational decision-making system.

Educational Goals, Objectives, and Program Structure

The planning committee is attempting to clarify and assess the goals and program structure for the educational system. Each school forms the

basic educational unit for the preparation of educational goals. The committee felt that the involvement of all staff members in the establishment of broad goals for each school would help them to plan learning experiences that would increase the general effectiveness of school programs. Goal statements could, first, help individual teachers formulate objectives for programs within each division at the elementary level and for specific courses at the secondary level; second, the sets of school goals could be synthesized to form a set of broad goals for policy decisions affecting the entire school system.

In addition to the schools, each area within instructional and operational support was designated by the planning committee as an educational unit for the purpose of writing objectives. Following board approval of the units designated, the committee undertook a series of activities designed to assist in the development of goals and objectives for each educational unit within the Lakehead system.

As a first step in preparing goals and objectives, members of the planning committee met with school principals throughout the system to explain the nature of the project and to encourage school personnel to write goals for their schools. During the spring term of 1973, staff members of various schools developed their goals. From this base, the planning committee assembled a kit of materials and a number of activities to assist them to prepare objectives for their school programs.

Two workshops were held in the spring of 1974 to help teachers develop skills in the preparation of objectives and use the kit of materials effectively. The 75 teachers who attended were later able to use the materials from the kit to assist their colleagues in preparing objectives. Also, a number of professional development days were set aside by the board in June 1974 to provide staff members of each school with an opportunity to prepare a set of objectives for at least one program in their schools.

The planning committee expects most of the schools' work on goals and objectives to be completed by June 1975. The statements of school goals have been collected by members of the board's administrative council for the purpose of formulating a set of broad goals and objectives for the entire system. To conclude, activities in the Lakehead project have stressed the importance of clearly formulating statements of intent for various educational endeavours. The approach to forming goals and objectives in this project is of interest, because the formulation that began at the school level is now moving to other levels as seen in the present work on objectives at the course and system-wide levels.

To date, the planning committee, because of its interest in the preparation of statements of goals and objectives, has devoted less attention to the school system's program structure. At present, the committee considers that the

program structure consists of three programs: instruction, instructional support, and operational support. In the elementary school, the program of instruction is broken down into the sub-programs of Primary, Junior, Intermediate, and Special Education. Each secondary school program of instruction may be divided into sections corresponding to the traditional disciplines and services (English, moderns, guidance, etc.).

When the preparation of goal statements for the school system, schools, and courses is completed, the committee should be able to assess the usefulness of the present program structure as a tool for designing educational experiences to accomplish goals and objectives. Thus, the committee's present work with goals and objectives is the first step in a continuous cyclical review of educational goals and program structure.

Evaluation

An evaluation sub-committee, which reports to the planning committee, has been formed to develop general guidelines for use by educational units in carrying out assessment activities. The eight teachers on this sub-committee have examined the OSSTF's self-evaluation kit and have adapted some of the kit's questionnaires to meet the specific circumstances of the Lakehead school system. Sub-committee members wished to study other evaluation techniques for possible application to their system, but felt they should first become more familiar with the various methods of writing educational objectives. To this end, several joint meetings of the evaluation and planning committees have been held to study and practise techniques for writing and assessing educational objectives. The evaluation committee should find the experience gained in preparing objectives useful in its search for other suitable methods of evaluation.

Program Budgeting

Four principals have volunteered their schools for pilot activities in order to develop local expertise that will aid in the preparation of a system-wide program budget for 1975-76. The pilot activity is directed by the budget sub-committee of the planning committee and consists of the four principals, the project co-ordinator, and the comptroller of the board. Each of the four pilot schools is preparing a program budget for 1974-75, in which the items of expenditure include teachers' salaries, instructional supplies, and instructional equipment. In the pilot elementary schools, the program aspect of the budget contains the following four categories: Primary, Junior, Intermediate, and Special Education and administration. The pilot secondary schools are using subject areas as program budgeting categories (i.e., English, mathematics, etc). The experience gained in the preparation of program budgets in the four pilot schools should help determine the methods to be used in establishing a program budget for the school system in 1975-76.

The Lakehead Project and the E.R.A.S. Model

Activities being carried out in this project, touch on the main areas of decision making in the E.R.A.S. model. The project committees have been concerned with decisions regarding the setting of goals and objectives, the preparation of program structures, the planning of program budgets, and the developing of methods of evaluation. In principle, decisions related to each of these decision-making areas should influence and, in turn, be influenced by decisions taken in the other areas.

The principle of interrelatedness has been observed within the Lakehead project in the way the preparation of school goals is affecting, (and will continue to affect as the project develops), first, the preparation of course and system-wide goals and, second, the assessment of the existing program structure. The joint efforts of the planning and evaluation committees should help ensure that assessment procedures identified and developed within this project will result in more valid assessments of the schools' achievements of their goals. In conclusion, the Lakehead project suggests that groups of educators studying different aspects of the educational process can co-ordinate their efforts to develop a logical decision-making approach for the improved effectiveness of programs for all students.

III. Development and Evaluation of Intermediate English: Board of Education for the City of London

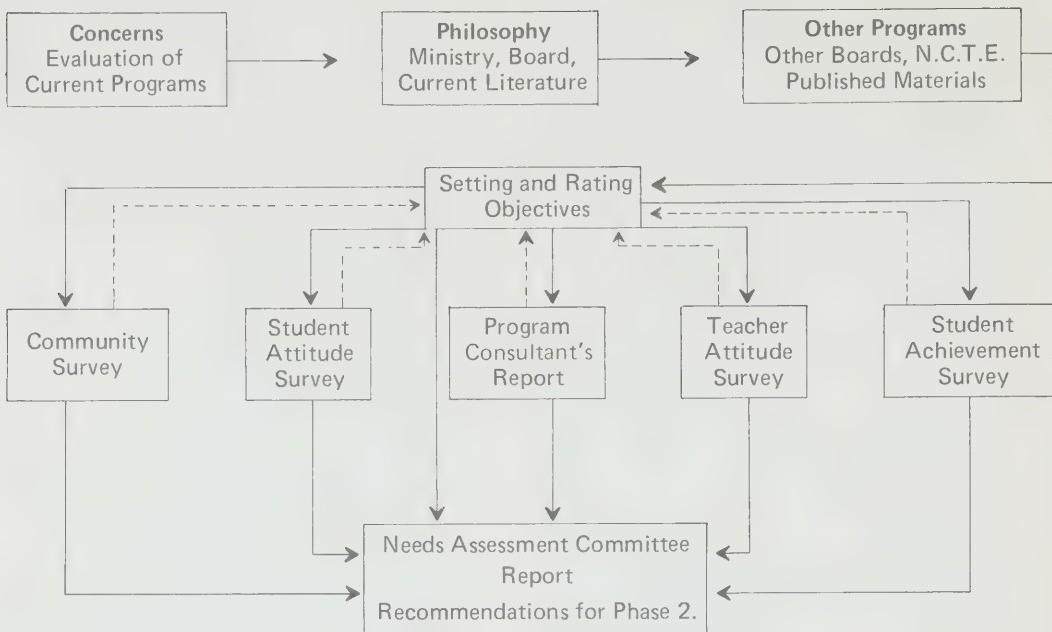
This project commenced during the fall of 1972. The English program was selected for study, with the initial focus centred upon the Intermediate Division (grades 7 to 10). A number of concerns —e.g., lack of emphasis in the teaching of reading and the need for integrating reading with English, varying perceptions, among teachers of different grade levels, about student goals—led to the choice of this subject area. The goal of the project was to develop a sequential, cumulative, and integrated curriculum that would provide for students of varying academic ability.

An English program planning committee was established, consisting of the English co-ordinator, a secondary school department head, an elementary school vice-principal, a member of the Research Department, and a superintendent. This body has assumed major responsibility for the project and has assembled and employed resources on an *ad hoc* basis as deemed necessary, rather than establishing a number of other permanent committees.

The initial consideration of the English program planning committee resulted in a master plan of development and evaluation for the English program in London. The first major phase identified in the master plan was entitled "Needs Assessment" and concerned itself with the endeavours outlined in the following figure.

Figure 3: Intermediate English

Phase 1



The first major undertaking—to set and rate objectives—consisted of the following activities:

- listing the possible goals and objectives of the Intermediate Division English program;
- determining the relative importance of the goals and objectives;
- assessing the degree to which the important goals and objectives were currently being achieved, i.e., identifying any discrepancies if they existed;
- deciding which of the identified discrepancies most needed to be reduced or eliminated.

In order to accomplish the task of listing the goals and objectives, the English program planning committee was augmented by the inclusion of several teachers from each grade level in the Intermediate Division. After a discussion about the establishment of objectives related to the discipline of English, consensus was reached that the initial consideration should be the development of *program* objectives, rather than the formulation of objectives for specific grade levels. The committee attempted to accomplish this task within the framework of philosophy and guidelines established by both the Ministry of Education and its board. Sources used as references for possible goals and objectives included materials from the Ontario Institute for Studies in Education, publishers, other school systems, and the National Council of Teachers of English.

Objectives were divided into six areas: general, thinking, reading, writing, listening, and speaking. In essence, these six areas formed a program structure in terms of subject matter. Each objective was expressed so as to indicate the kind of performance expected of the learner. All but the general objectives included expectations in terms of both attitudes and skills.

After the list of objectives was completed, English teachers in grades 7 to 10 were surveyed to establish:

- 1) how important each objective was;
- 2) whether each objective was expected to be met *at present* in their course(s); in addition, whether each objective *should* be expected to be met.

Another aspect of the needs assessment phase was the design and distribution of a questionnaire seeking to determine student feelings, opinions, and attitudes regarding English, an effort assisted by several elementary school principals. This survey of 1,247 students in grades 7 to 10 represented approximately 10 per cent of the student population of each grade level. The six sections of the questionnaire asked students to:

- 1) rate the degree to which he or she agreed with statements about various facets of the English course;
- 2) respond to questions dealing with reading not required by the school;
- 3) react to words according to a semantic differential;
- 4) assess the time spent on various aspects of the course;
- 5) note the number of teachers from whom they received instruction in English;
- 6) make suggestions regarding their English courses (an open-ended section).

The English program planning committee felt it important to attempt to obtain information regarding this program from the community. Under a winter works grant, a person was hired to conduct a series of structured interviews with employers, parents, and citizens at large.

The employer survey centred upon three areas:

- employers' requirements for language proficiency in job applicants (including whether the employers administered tests);
- employers' opinions as to the importance of communication skills in on-the-job situations;
- employers' opinions of the general communication capabilities of secondary students applying for jobs.

A survey among parents sought information about the following:

- their opinions regarding what an English program should focus upon;
- their opinions regarding the strengths and weaknesses of the English program;
- the reading habits of their child(ren).

The citizens' survey sought data on the respondents' reading attitudes and habits, letter-writing characteristics, and opinions regarding the utility of their experiences in school English courses.

Another survey was conducted among the teachers of Intermediate English courses. This survey examined the following areas:

- demographic and professional background information about teachers;
- questions dealing with instructional matters (time spent on English, content covered, equipment and facilities, strategies employed, etc.);
- an open-ended section asking for opinions and recommendations.

The information obtained from each of the surveys has been gathered and is being analysed; the findings are to be presented in a series of reports.

In addition to these survey data, an external perspective of the current program's strengths and weaknesses was provided by an English program consultant from the ministry's local regional office, who submitted a report based upon classroom observations and teacher interviews.

An important, though difficult, undertaking has been the assembling of data regarding the status of student performance. Those objectives given highest priority in the surveys were selected for analysis, and a search and review of various English assessment instruments and techniques was conducted. The result was the *Student Achievement Survey*, which was administered in February and March 1974 to 2,684 Intermediate Division students, to assess achievement in reading, speaking, listening, verbal creativity, writing, vocabulary, language usage, and research skills.

The results of the student assessment survey will be pooled with all the other information collected, and will then be considered by a needs assessment committee. This group, comprising teachers, administrators, students,

parents, and members of the community, will submit recommendations to senior administrators and trustees.

Whatever recommendations emanate from the needs assessment committee will be the result of a comprehensive and carefully planned and executed attempt to achieve the project's goal. Program objectives have been formulated and judged as to their appropriateness and importance; student desires, opinions, and performance levels have been ascertained; and perceptions of employers, parents, and citizens at large were gathered, all in an effort to assess the current status of the Intermediate Division English program and provide direction for the future.

Depending upon the recommendations made and accepted, the anticipated second phase of this project will focus upon:

- developing student learning objectives for specific grade levels;
- developing instructional materials and program strategies supportive of these objectives;
- developing planning guides and conducting staff development activities.

In addition to the activities related to the English program, efforts are also being made with respect to program structure and program budgeting and accounting. A committee, representing a cross section of school system personnel, has considered the concept of program structure and how this concept might relate to their system. It became apparent that one primary function of a program structure was to provide a framework whereby the aims of an organization could be more closely related to the programs (activities and services) offered within that organization. Thus, it was felt that the establishment of a program structure could assist in the process of considering priorities.

The committee commenced by reviewing the board of education's formal statement of philosophy and aims. Then the committee examined the activities and services that were provided within the board and made judgements as to which activities and services were designed primarily to support and facilitate progress towards particular aims. The work to date has resulted in the definition of eleven programs: e.g., development of intellectual skills, development of understanding and knowledge of the environment, development of students who have special needs, provision of support services to students and teachers, etc. Each of these programs has been subdivided into more specific elements; "development of understanding and knowledge of the environment", for example, contains three elements: cultural development, pure and applied science, and social sciences. Each of these three elements has, in turn, been subdivided into more specific subject areas, and each subject area can be related to the four divisional levels, i.e., Primary, Junior, Intermediate, and Senior.

Although this description of a program structure may appear somewhat complicated, the relationship between purpose and activity becomes clearer and thus potentially more useful when the aims and the various activities and services supporting these aims are illustrated diagrammatically. Once a review of the school system's aims has been made, it can then be decided which aim is first in importance, second in importance, and so on. After the priority of the aims has been established, it will be easier to determine which programs should be given high priority, since the relationship between aims and activities and aims and services (outlined in the program structure) will have been identified.

While efforts to examine program structure have been experimental and exploratory, the use of the program structure as a framework for integrating the objectives developed, the evaluation procedures designed, and the budgeting and accounting process will be continued.

In the early part of 1971, the trustees of the London Board of Education recommended the implementation of program accounting and budgeting procedures in order to provide more meaningful information upon which to base educational decisions. Under the direction of the Superintendent of Business, the activities of the school system were identified by subject or administrative area. Data forms were designed to gather the necessary data required—both financial and non-financial—for budgetary purposes: e.g., the number of teachers, students, and so on.

A time frame was established for the following budget-related matters:

- the completion and submission of budget forms;
- a computer printout, by subject or administrative area, indicating last year's actual budget and the proposed budget for the current year;
- a review of the budget proposed by the superintendents and the recommendations forwarded to the board budget committee;
- an examination of the proposed budget and recommendations of the board budget committee, forwarded to the board for final approval.

Once the final budget is approved, expenditures are reported, monthly or as required, by means of computer printouts, of which copies are sent to principals, administrative heads, and trustees. These printouts contain information such as the previous year's budget, the current year's budget, the amount by which the current budget has been expanded or contracted, the amount encumbered, and the balance to be expended.

Each secondary school produces a budget and receives reports that detail the types of expenditure made for various subject areas. In the elementary panel, budgets are developed and expenditures are reported according to

administrative roles; some areas of the curriculum, such as music, art, science, physical education, the bilingual program, industrial arts, and home economics, are noted in greater detail. Supporting the development of program accounting and budgeting are quarterly seminars, which are intended to inform principals and others how to complete and submit budget forms, make use of the printouts they receive, and make recommendations for the improvement of the entire budget procedure.

IV. Special Services in Education: Carleton Board of Education

In recent years, the Carleton Board of Education has developed a procedure to assist in the allocation of educational resources. Known as a "Model for Budgetary Decision Making" (M.B.D.M.), this can be applied to the making of decisions regarding major educational functions such as Special Education, instructional programs, and Special Education services. The M.B.D.M. procedure is similar to the E.R.A.S. model, in that educators responsible for a specific educational function evaluate their objectives and activities on a cyclical basis as they plan for the future.

The Special Services personnel of the Carleton Board have been using the M.B.D.M. approach since 1971 in planning and evaluating their program. The Special Services group comprises 21 staff members, including social service consultants, educational consultants, psycho-educational consultants, psychologists, speech correctionists, a speech therapist, and a counsellor for students with impaired hearing. This organization, under the direction of the co-ordinator of Special Services, forms part of the operations arm for the school system.

Special Services has used the M.B.D.M. in preparing statements of its objectives, articulating a program structure to support the objectives, developing standards to assess program performance, and designing record forms that indicate the types of information to be gathered in order to determine the degree to which standards are achieved. With its experience in the use of M.B.D.M., Special Services was a logical choice for participating in an E.R.A.S. project. In February 1973, a steering committee representative of Special Services, the board's planning personnel, the Carleton Principals' Association, and the E.R.A.S. Task Force was established to initiate and guide a project to study resource allocation with respect to Special Services in Carleton. As the project evolved, the steering committee was replaced by a committee of the Special Services staff, which has met regularly with a member of the board's planning personnel and the E.R.A.S. Task Force to analyse and modify existing procedures and to design plans for additional evaluative activities. By supporting and monitoring the assessment activities of Special Services, the E.R.A.S. Task Force hopes to increase its understanding of evaluative

methodologies that could be applied in the assessment of the wide range of support services offered in today's educational system.

Although the methods of assessing support services developed within Carleton are of the greatest interest to the E.R.A.S. Task Force, the following section is limited to a description of the involvement of the Special Services staff in three phases of an E.R.A.S.—M.B.D.M. system so as to emphasize the integrated and cyclical nature of a systematic decision-making process. The three phases are the selecting of program objectives, the preparing and implementing of program structures, and the assessing of program activities.

Objectives for Special Services

The 1972 M.B.D.M. report prepared by Special Services lists the following eight objectives for the unit:

- 1) to participate in *in-service* programs designed to assist others (teachers, parents) to become more knowledgeable and skilful;
- 2) to evaluate the effectiveness of programs through applied *research*;
- 3) to get to know *the school as a social system* in order to ensure the relevance of recommendations;
- 4) to develop and foster in the schools and the community an *understanding* of the capabilities and limitations of the Special Services staff;
- 5) to *diagnose* the nature and degree of the problem;
- 6) to recommend action and/or provide services to overcome or *alleviate* the diagnosed problem;

- 7) to *evaluate* the progress being made in overcoming or alleviating the problem;
- 8) to maintain the competence of the Special Services staff through continuing *professional growth*.

This set of objectives was designed to guide Special Services in making its contribution to meeting the broad educational aims established by the Carleton Board. Special Services felt its set of objectives was particularly supportive of the following board aims:

- The system will diagnose each student's needs, develop relevant programs appropriate to these needs and assess these programs regularly.
- The student will also develop personal standards . . . an awareness of the norms of society which will lead to a genuine self-evaluation . . . a sensitivity toward others . . . a positive self-image.¹

The Program Structure for Special Services

To meet the objectives for its program, the Special Services unit carries out activities in five sub-programs, entitled *in-service*, *casework*, *speech*, *professional development*, and *research*. Each of the sub-programs is then further subdivided into program elements. The relationship between the objectives for Special Services and its sub-programs is shown in Table 4. This table illustrates only the basic structure for Special

¹ Carleton Board of Education, *White Paper on the Aims and Objectives of the Carleton Board of Education* (Ottawa: Carleton Board of Education, 1971), p.3.

Table 4: Program Structure for Special Services Unit

Sub-programs	Program Elements	Objectives Served by the Sub-programs
In-service	Formal (teaching staff) Informal (teaching staff) <hr/> Parent education programs	*1
Research	Formal <hr/> Investigative Studies	2
Casework	Liaison <hr/> Initial Informal Consultation <hr/> Service to Students (4 sub-elements)	4 3,4,5,6, and 7 5,6, and 7
Professional Development		8
Speech Services	Screening <hr/> Correction <hr/> Therapy	5, 6 and 7

*Numbers refer to the objectives for Special Services as listed in the text on this page.

Services. However, detailed descriptions of a large number of activities in the Special Services' program are also available.

To institute the sub-programs, part of the Special Services unit is divided into three multi-disciplinary teams, each serving three of the nine families of schools within the Carleton system. Each team comprises a social service consultant, an educational consultant, a psycho-educational consultant, and a psychologist. For 1974-75 one additional educational consultant and one social services consultant have been added to one of the teams.

Each of the four speech correctionists is assigned to serve an average of twelve elementary schools; the speech therapist acts as a resource person to the correctionists, provides diagnostic assessments of students referred by them, and direct therapy in a limited number of cases. A counsellor, who is to function as a part of the speech services team, has been engaged for 1974-75 for students with impaired hearing.

In summary, the program structure for Special Services has been designed so that program activities are related both to objectives for the group and to the broader aims of the entire educational system. The usefulness of the program structure is seen in the way it has been employed to distribute the resources of Special Services personnel throughout the families of schools in Carleton.

Standards and Assessment of Special Services

As part of the project, members of the board's planning personnel worked with members of Special Services to develop standards of performance for each program element. With respect to the in-service program element labelled "formal", related to teaching staff, for example, one of the standards established was the provision of an average of 20 hours of workshops or seminars with five or more participants per family of schools per year. The planning personnel and Special Services personnel developed a series of record forms to collect information needed to assess the degree to which each of the standards was being met. For example, the record forms designed to assess the standards for workshops sought information such as program time per family, number of participants per workshop, the ratio of the amount of in-school time to out-of-school time devoted to in-service by school staff and participants, and the number of requests for additional workshops.

The record forms are a relatively easy method for collecting quantitative data to describe the nature and effects of the programs offered by Special Services.

The record-keeping charts were completed for the first time during the 1972-73 school year. The data collected were used by Special Services to revise its objectives and standards of service for the 1973-74 year. Analysis of the 1972-73

results suggested that it would be useful if the assessment procedures were expanded from an examination of specific parts of the program to include a time study of the activities of each of the Special Services personnel. Thus in 1973-74, in addition to completing the revised charts from the previous year, Special Services personnel kept records of the amount of time spent in performing activities within each of the program elements in the unit's program structure on a time-sampling basis. As in the previous year, the data collected during the 1973-74 assessment will be used by Special Services to further develop and refine its objectives and programs in a continuing effort to improve the quality of educational programs within the Carleton Board of Education.

V. Curriculum in Elementary and Secondary Schools: Timmins Board of Education

The Timmins Board of Education joined the group of school systems involved in resource allocation projects in the early part of 1973. A number of system personnel felt that the concept of resource allocation might be helpful in the establishment of a framework for curriculum development and a greater degree of co-operative planning between the elementary and secondary levels.

Two schools were selected for participation: R. Ross Beattie Senior Public School and Roland Michener Secondary School. Within each school a committee was formed to co-ordinate the activities to be undertaken; in each school, the principal was actively involved in and supportive of staff endeavours.

A decision was made in both schools to commence resource allocation through the development of objectives. A considerable amount of effort has been expended in this regard. Teachers in the R. Ross Beattie Senior Public School have produced student learning objectives for a wide variety of subject areas—art, music, geometry, mathematics, science, physical education, history, geography, literature, and the school's resource centre. Staff of Roland Michener Secondary School were able to develop a hierarchy of aims: aims for the school, aims for the four broad areas of study outlined in *H.S.I.*, aims for programs contained within these four broad areas, and, finally, aims for the specific courses comprising the programs. Additionally, aims for the student services and resource centre aspects of the school's operation have been formulated.

Since there was general agreement that school operations should be consistent with the overall purposes of the board, the consideration and development of aims for the entire school jurisdiction was a logical corollary to the activities that had been undertaken in the two schools in question. An *ad hoc* group of four trustees, known as the Aims and Objectives Committee, was established and was enlarged by four staff representatives from each pilot school.

After several meetings, the Aims and Objectives Committee proposed the following procedures for the establishment of system goals:

- development of a questionnaire that would seek opinions regarding the school system's aims, strengths, weaknesses, and possible changes required;
- distribution of the questionnaire to all trustees and a sample of parents, teachers, students, and the public;
- collation and tabulation of the responses in order to arrive at a preliminary list of board aims;
- distribution of the preliminary list of aims to a wider audience of teachers, students, parents, and the public in order to ascertain the relative importance of the various aims that had been suggested;
- analysis of the results in consultation with the pilot school representatives;
- submission of the findings to the full board for completion and approval.

The preparation and distribution of the questionnaire and the analysis of the responses have now been completed. Future activities related to this project will centre upon the completion of the work of the Aims and Objectives Committee and the consideration and formulation of evaluation procedures related to the aims developed in the two pilot schools.

In the area of resource allocation, the chief emphasis of the Timmins Board of Education has thus far been on aims. Gradually, a hierarchy of aims is being established; this will eventually include a series of mutually supportive objectives, ranging from the system-wide level to individual courses within a school, which will provide school personnel with a basis for programming and assessment.

VI. Models for In-school Administration: Nipissing Board of Education

The senior administration of the Nipissing Board of Education initiated the Nipissing project by identifying three areas that might be studied: business administration, teaching of French as a second language, and in-school administration. The criteria for selecting an area for study were as follows:

- a) the topic would involve as many of the system's personnel as possible;
- b) the study should increase the skills of personnel in developing decision-making processes that could be applied to a wide range of educational issues.

A planning committee was formed, comprising two trustees, two superintendents, an elementary school principal, two secondary school vice-principals, the supervisor of guidance for elementary schools, and one elementary classroom teacher. The committee decided that the area of in-school administration best met the selection criteria and began its study by asking all principals, vice-principals, and secretaries to describe their administration duties. The data

from the survey formed the basis for discussions at a workshop on the objectives of in-school administration held in February 1974.

Approximately 35 people, including principals, vice-principals, department heads, and trustees, participated. The seminar identified curriculum development and business affairs as functions of in-school administration that warranted further investigation. At the conclusion of the workshop, the primary goal of the Nipissing project had been narrowed to that of developing decision-making processes related to curriculum development and business affairs within the context of in-school administration.

The planning committee made a request to meet with workshop participants who were interested in conducting a project on resource allocation within their own schools. Three principals and one vice-principal agreed to participate in such a project and joined the planning committee at its next meeting. At this session, the planning committee divided into four teams, each of which was to work with a principal or vice-principal in developing a model to assist school administrators to carry out the functions of curriculum development and business affairs. The teams decided that each model should contain the following information:

- guidelines according to which school administrators could carry out specific responsibilities with respect to curriculum development or business affairs;
- a definition of the goals or objectives that the administrator would attempt to meet in carrying out responsibilities in curriculum development and business affairs;
- criteria to be used in determining the extent to which the goals or objectives were met.

With respect to curriculum, for example, one secondary school vice-principal proposed the development of a model to increase the abilities of teachers to improve the programs of instruction in their departments. In business affairs, one principal decided to develop a model to help control or reduce paper costs without reducing the quality of existing programs. This was to be in a format that would permit its use in resolving a variety of problems related to other school business affairs. Since the February workshop, the four teams have met both separately and with each other to share ideas and evaluate their progress. Two of the decision-making models are described below.

A Model for Curriculum Supervision

A curriculum supervision model is being developed and tested to assist principals, vice-principals, or program directors to meet their responsibilities with respect to the supervision and support of curriculum development within the departments of secondary schools. The purpose of such a model is to improve the curriculum design process; the specific objec-

tives are intended to help an administrator-supervisor:

- 1) to assist and support teachers in the preparation, presentation, and follow-up of a unit of study;
- 2) to identify for teachers and department heads specific strengths and weaknesses in a department's curriculum development process;
- 3) to learn, as an individual outside the department, the specific areas of concern held by members of the department and the distinctive characteristics of that department;
- 4) to suggest directions for future development of the curriculum;
- 5) to encourage analysis of the criteria for future developments.

The basic feature of the supervisory process is a series of meetings and developmental projects in which the supervisor works with the members of the department to produce, test, and evaluate new units of study for the department's program (see Figure 4).

1. The Meeting with the Department Head

This is a planning session to identify broad areas within the department's programs suitable for the development and testing of new units of study. The supervisor and department head examine the philosophy of the department and the aims and objectives of each course of study. They then review the relationship of course objectives to the general aims of the entire school program. After drawing up a tentative list of areas for the development of units of study, they estimate the time required to produce and evaluate these units of study. Finally, the supervisor and department head establish an agenda for the first meeting with all members of the department.

2. First Meeting with the Entire Department

The purpose of this meeting is to explain the nature of the developmental process to the teachers and to identify the basic procedures to be followed. The supervisor stresses that the objective is to improve curriculum through a departmental effort and that the exercise is not intended as a "witch hunt". The supervisor explains that he or she plans to meet with each teacher to plan, test, and evaluate units of study.

After the testing of the units, the supervisor will meet with each teacher to assess the effectiveness of the learning experiences and explore possibilities for future developments. The departmental meeting is concluded by drawing up a timetable for the meetings with individual teachers.

3. Meetings with Teachers and the Development of Units of Study

The supervisor meets with each teacher to identify the unit of study to be developed and to discuss the methods that might be employed and the various resources, including time, that the teacher might use. Together they prepare a timetable for the detailed planning, testing, and assessment of the unit. During the testing, the supervisor visits the teacher on one or more

occasions, depending on the agreement established between the supervisor and teacher. The supervisor may participate in the learning experience if such participation is considered desirable and will contribute to the development of the unit.

At the end of the testing phase, the supervisor and teacher review the entire operation and evaluate the effectiveness of the unit. The supervisor should keep in mind that the major objective of assessment is to increase the skill of the teacher in planning and evaluating units of study. The teacher should not be bombarded with a generalized critique; instead his attention should be drawn to a few important items that will be of greatest benefit to him. As a result of collaboration in the development and assessment of a unit of study, the teacher will acquire greater skills in curriculum development.

4. Second Meeting with the Entire Department

After each teacher has developed and tested a unit of instruction, the supervisor meets with the entire department for a second time. The present state of curriculum development within the department is discussed, and the direction of future work is agreed upon. The combined experience of all department members and the supervisor provides the basis for discussing broad topics such as the use of resources, methods of evaluation, student-centred versus teacher-centred lessons, aims and objectives, in-service training, innovations, and future planning. Since the objective of the meeting is to improve the program of the entire department, all department members are invited to participate fully and present their views. One result of this meeting might be the establishment of planning criteria that are unique to the department and that could be used during future cycles of the supervisory model. The departmental meeting is intended to encourage an enquiring and experimental approach to the preparation of learning experiences.

5. The Final Meeting with the Department Head

The supervisor and the department head review and summarize the results of the supervisory exercise. Specific tasks to ensure continued improvement and refinement in the department's programs are agreed upon. The supervisor may suggest areas of the curriculum that require attention; some suggestions might be made for helping individual teachers. The department head could express his impressions of the exercise and suggest possible future activities. These could range from the preparation of program budgets to an increase in the expertise of teachers in specific subject areas. A tentative date for initiation of the second cycle of the supervisory process is established.

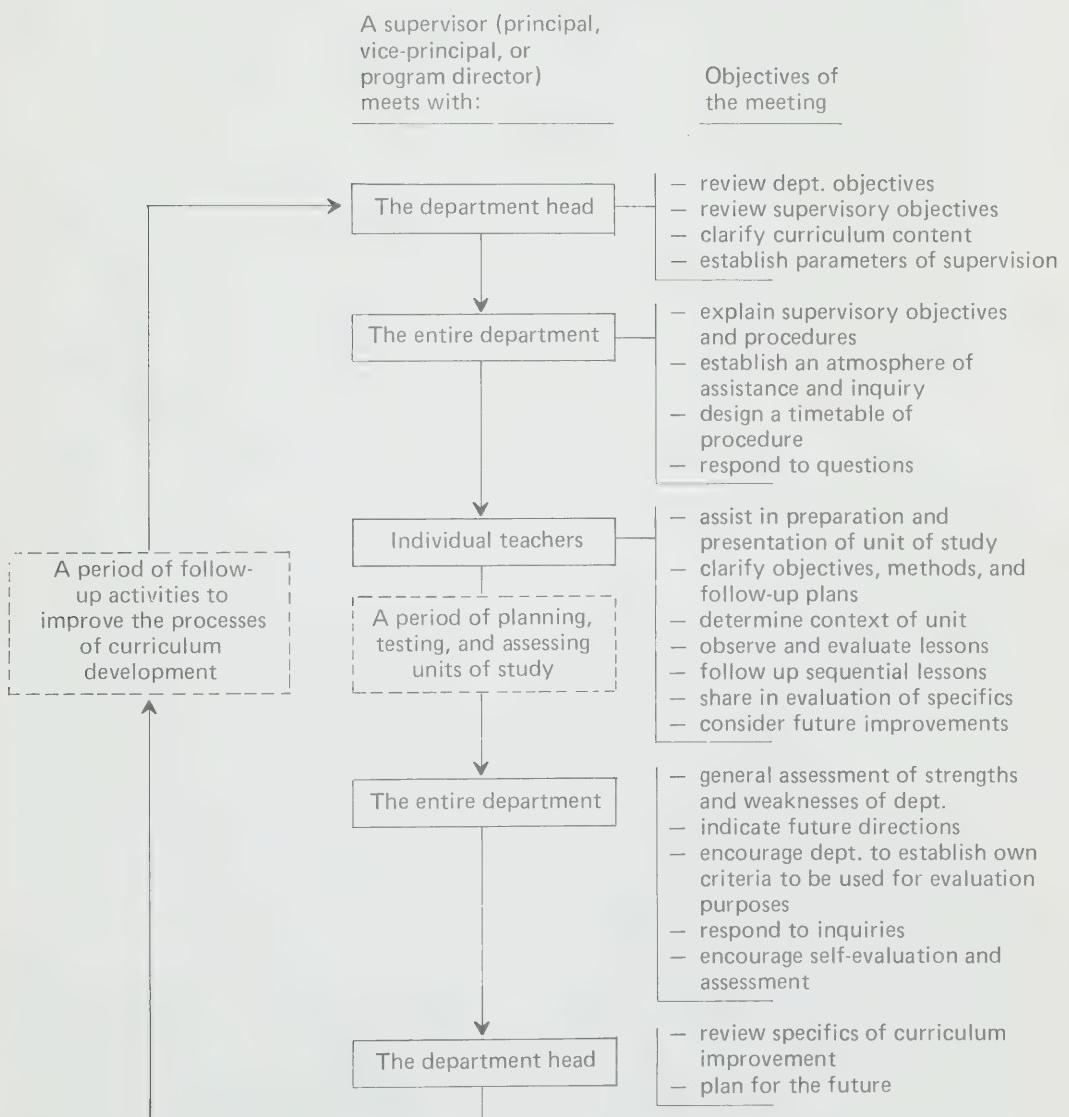
Curriculum Supervision and the E.R.A.S. Model

The supervisory model uses E.R.A.S. concepts to encourage and support curriculum development in the departments of secondary schools. The various steps of the supervisory model

would ensure that the goals and objectives for the school program, the departmental program, and individual courses are integrated in a mutually supportive manner. As in the basic E.R.A.S. model, the supervisory model calls for the development of a hierarchy of goals and objectives to help guide the allocation of resources within a department's program. Another aspect of the model's design is an attempt to ensure that units of study are developed to support the objective of the instructional program. This aspect of the model constitutes an application of the E.R.A.S. concept that program structures should be designed in terms of a program's objectives. In still another feature of the model, external and internal perspectives are brought to the

assessment of the units of study. The supervisor uses his knowledge of the wider context of the educational environment, external to the department's program, and the teachers and department head provide detailed knowledge about educational processes unique to the particular subject discipline. This feature of the model endorses the E.R.A.S. position that assessment is multi-dimensional in nature and should involve the widest possible range of people. Finally, as in the basic E.R.A.S. model, the model for curriculum development is cyclical in nature, so that it promotes, over a number of years, a gradual increase in the ability of a department to improve its programs.

Figure 4: A Cyclical Model for the Supervision of Curriculum Development



A Model for Business Affairs

A planning model is being developed and tested in a secondary school to help school personnel meet the needs of the school in terms of its business affairs. The school has 1,400 students, 84 teachers, 7 secretaries, and 12 custodians. The school's administrative team decided to test a business affairs planning model because (1) it was relatively easy to identify specific problems related to the business affairs of the school, and (2) it was expected that the application of a planning model to the business function would produce effective results in a short period of time.

After considering several planning models, the administrative team selected the model outlined in Figure 5. In this model, the general task or functional areas of the school are identified, and the aims for these areas are articulated. Each task area is broken into a number of sub-areas, within which specific tasks are identified. Activities related to specific task areas are monitored continuously to identify emerging needs and opportunities. According to the model, the detection of needs and opportunities would lead to the preparation of specific objectives which, if followed, should enable needs to be met or opportunities to be realized. The input description phase of the model involves the processes of (1) identifying alternative means or procedures for meeting the objectives and (2) selecting one of these procedures for implementation. The mechanics (specific activities required) and a time schedule are established and put into effect for the procedure selected. Results of project activities are then evaluated, and this information provides the basis for recommendations and future objectives.

Having prepared the planning model, the administrative team used it to guide a pilot project within the general task area of in-school business administration. For the purposes of the pilot project, the aims for the business task area were described as follows: to determine and to provide those services, policies, and procedures, within the parameters of board policy and budgetary limitations, essential to the creation of the best possible educational environment for both the teaching staff and the students.

The sub-areas of business administration were identified as (1) management of the secretarial staff, (2) management of the custodial staff, (3) management of the resource centre and its personnel, (4) allocation of and administration of classroom supplies and capital budgets, and (5) allocation and administration of those budgets, other than classroom supplies and capital budgets, essential to the achievement of the overall aim of the task area.

The administrative team chose the fifth sub-area as the site for the pilot project; the specific task selected was that of administering those budgets, other than classroom supplies

and capital budgets, essential to the achievement of the overall aim of the task area. The specific objective for the project was to reduce spending in this area by 25 per cent without adversely affecting the educational environment.

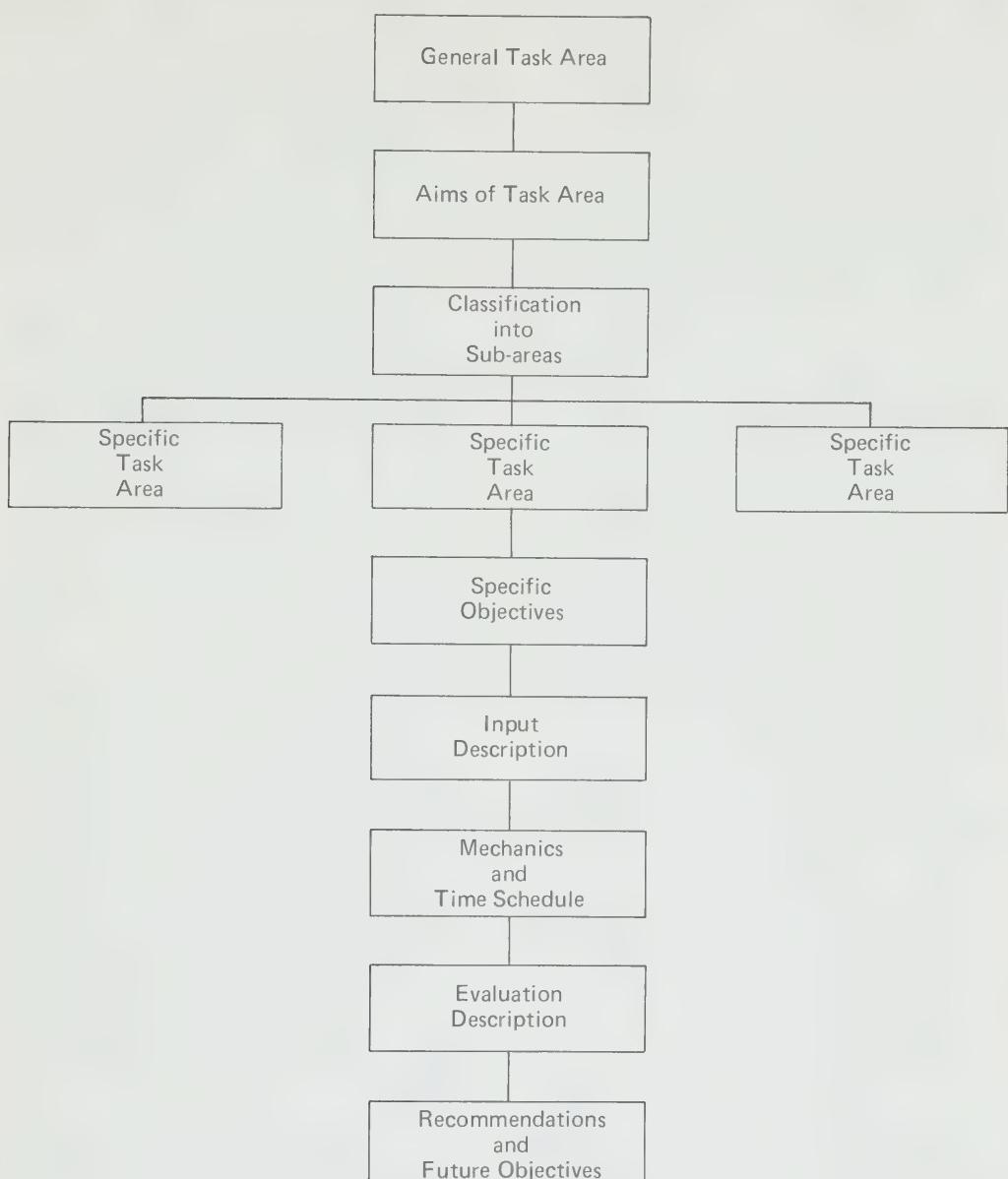
The administrative team began the input description phase of the pilot project by identifying items in the budget that applied to the specific task area and deciding what items could be dealt with in the project. The items selected were all types of paper products, duplicating materials, and photo-copying materials. The administrative team then made up a tentative list of recommendations for the use of these items.

The recommendations were submitted to the head secretary in order to (a) assess their practicality, (b) conduct experiments where necessary, and (c) produce costing factors in co-operation with the budget control and supplies officials at the board office. At the same time, the school's audio-visual technician began an investigation of the cost and quality of a variety of new copying machines. The information provided by the secretarial and audio-visual personnel was used to refine the original recommendations.

The revised recommendations were presented at a meeting of the entire school staff. The staff was encouraged to discuss the rationale for the project and to make additional recommendations. The staff was informed that the audio-visual technician was performing tests on a variety of photo-copying machines; staff members were invited to try the machines and to give their comments and suggestions to the technician. The testing of the machines and the formulation and consideration of additional recommendations continued for approximately two months after the general meeting. Among the consequences of this activity were (1) a revision of the methods for ordering bulk purchases, (2) the development of a new work order form to encourage the economical use of duplicating materials, (3) the counselling of secretaries in ways of giving advice and assistance to staff on the most economical use of duplicating materials, and (4) the preparation of a system for keeping a record of the savings in materials that should result from introducing the recommendations of the staff. With the input description phase completed, the project moved into the mechanics and time schedule phase.

Because the production of materials varies greatly on a month-to-month basis, it was decided to test the recommendations throughout one school year. An inventory of all duplication and reproduction materials in the school was taken before and after the 1973-74 test year to provide an accurate evaluation of the changes expected in the types or quantities of materials used.

Figure 5: Planning Model for In-school Business Affairs



To date, the project has resulted in the following:

- a \$650 reduction in bulk orders from those of the previous year due to the use of new or more efficient materials;
- a \$1,000 reduction in the costs of photocopying supplies due, in part, to the school's obtaining a coin-operated photo-copier for student use during the project;
- a \$300 reduction in paper costs (other than photo-copier material), due to the more efficient use of materials by teachers.

On the basis of its experience during 1973-74, the administrative team intends to continue to develop and refine the project in 1974-75. Surveys of inventories will continue so that a comparative assessment of the two years will be possible.

In addition to continuing the present project, the administrative team is studying the pos-

sibility of applying the model to other areas of in-school business affairs. At present, the sub-area of managing the resource centre and its personnel is being considered as one possibility. The experience of the first year of the pilot project has enabled the administrative team to identify a number of areas for future planning.

Business Affairs and the E.R.A.S. Model

E.R.A.S. concepts are employed in both the establishment of the format and the application of the planning model for in-school business affairs. Project activities developed from the model are based on clearly defined objectives and the assessment of these activities provides direction for recycling the planning process in a continuing effort to refine and improve educational processes. E.R.A.S. concepts have been applied in the model: the objectives for a specific project are related in a hierarchical fashion to the aims for the sub-task and general task areas.

In conclusion, the Nipissing project is providing valuable insights into the strategies for building decision-making processes that should help increase the effectiveness of in-school administration. It is expected that, as the models are refined further, they will make a significant contribution to improving the learning experiences of all students.

VII. Technical Education: Sudbury Board of Education

In September 1972, the Sudbury Board of Education became involved in a resource allocation project. A study carried out the previous year by the advisory vocational committee and technical directors had established that the technical program was a logical area for the introduction of resource allocation concepts. Three secondary schools that provided a good cross section in terms of age, location, and staff were chosen: Ecole Secondaire Hanmer, Lively District Secondary High School, and Sudbury Secondary School. The technical program within these schools includes the following subjects: auto mechanics, drafting, electricity, electronics, machine shop, plumbing, welding, woodworking, technical drawing, mechanical drafting, sheet metal, refrigeration, auto-technical literacy.

The appointment of a project co-ordinator was followed by the establishment of a series of committees, which would provide a framework for systematic decision making regarding future refinements or significant changes in the technical program. The committees included a steering committee, program description committee, committee for evaluation, budget committee, and a committee for future trends in technical education.

Steering Committee

The project's co-ordinating group was called the steering committee, and comprised a superintendent, a trustee, principals from the three schools, and two master technical teachers. The committee's function was as follows: to determine the activities to be undertaken, the order in which the activities were to be undertaken, the division of activities and the committees required, the membership of the committees; to supervise, co-ordinate, and schedule the activities of committees; to edit and present a final report and/or recommendations.

The steering committee established a number of other committees, which were charged with specific responsibilities.

Program Description Committee

This group, which included two master technical teachers, the technical directors of the three schools, and a representative of the ministry's local regional office, was to provide a brief description of each technical course currently being offered. These descriptions were to include learning objectives for each course, the conditions under which these objectives would

be undertaken, and the criteria for accomplishment. Attempts were made to express objectives for factual, attitudinal, and physical aspects of each course.

Each technical director worked with members of his department to prepare this description. A series of workshops were provided to assist staff members in understanding and accomplishing this task. During June of 1973, the initial course descriptions were completed.

Committee for Evaluation

This group, consisting of a trustee, two master technical teachers, a principal, vice-principal, a representative from the ministry's regional office, three technical teachers, and a representative from the board's computer centre, was formed to design procedures for gathering information about the following:

- pupil performance relative to objectives
- instructional (teacher-learning) arrangements
- facilities and equipment
- financial matters.

The committee devised a questionnaire to solicit information from the technical teachers in the three schools about instructional patterns, facilities and equipment, and financial matters. To increase the validity of the questionnaire the technical teachers in the three schools were asked to assess and modify the initial draft. The redesigned questionnaire was then distributed for completion. Technical directors discussed with each teacher his or her responses, for further clarification and elaboration. A summary report was prepared for each of the three technical departments; these reports were then forwarded to the committee.

The collection of information about the assessment of student achievement is not yet complete. However, the committee for evaluation has explored related activities in several school systems. The questionnaire provided some information about existing student assessment procedures. The assessment of student development would be a natural area for the committee's continuing efforts.

Budget Committee

This committee includes representation from the schools involved in the project, trustees, business officials, and the board's computer centre. Its work consists of developing a budgeting and costing procedure for technical education, which the staff feel will assist them in making curriculum decisions. Technical teachers participated in the development and refinement of the forms prepared by this committee for the gathering and reporting of financial data. Final versions of the forms have been distributed, and budget submissions were made by the technical staff during June 1974. Procedures have also been established for informing the technical teachers of the expenditures incurred in relation to the amounts

budgeted. As part of cost analysis, the committee has decided to produce a cost-per-pupil credit budget formula.

Committee for Future Trends in Technical Education

The committee for future trends in technical education consists of school system personnel, representatives of industry located in the Sudbury region, a member of the staff of the local college of applied arts and technology, and several recent graduates of the school system who are employed in technical positions. The nature of this committee's efforts are, as its name implies, to judge what the qualifications for technical employment will be over the next few years. Such information would obviously provide one important source of data in the planning of changes in the board's technical program.

Activities of the committee members have included the following:

- interviewing students enrolled in the technician and technology programs at Cambrian College, in order to learn their views on the strengths and weaknesses of the present secondary school technical program in the light of their post-secondary experiences;
- preparing and administering a questionnaire to department chairmen, faculty, and students at Cambrian College, who were asked to rate various technical skills and characteristics in relation to their usefulness towards further education or their value for leisure time;
- conducting of an informal survey by recent technical graduates seeking the opinions of other apprentices on the adequacy of technical programs;
- reviewing of the course descriptions and objectives established in the technical departments of the three schools by committee members from Falconbridge and the International Nickel Company.

The committee is using the information gathered from these sources to produce a questionnaire, which will be forwarded to the region's business and industrial establishments to ascertain their expectations of future graduates in technical education.

While the technical program personnel are systematically considering the curriculum in their departments, another group, the systems aims and objectives committee, is functioning at the board level. This committee will attempt to articulate a statement of purpose for the entire school system. This exercise will enable educators to see how the technical education program contributes to and is associated with the other instructional programs offered by the board.

In all of these activities, teachers have not only been asked to react to various developments; they have also been heavily involved in establishing the nature of these developments. Course descriptions and objectives have been formulated; information has been gathered as

to the instructional arrangements and adequacy of facilities and equipment needed to facilitate the achievement of objectives; the program's budget and its relation to objectives have been considered; and, finally, a group is gathering evidence that will assist technical personnel in making decisions about the future direction of the program. The significance of the variety of activities undertaken in these three technical departments lies in the knowledge that, as these activities are gradually integrated, a framework for planned decision making for the future is being developed.

VIII. Mathematics and Language Arts in the Junior Division: Grey County Board of Education

During February of 1973, the Board of Education formally approved the participation of the Grey County school jurisdiction in a resource allocation project. The purpose of the undertaking was to develop a curriculum for the Junior Division (grades 4 to 6) language arts and mathematics programs consistent with and supportive of aims and goals for the school system that were previously adopted by the board.

Several committees were formed. The steering committee, as its name implies, was to direct and co-ordinate the project. This committee consisted of a trustee, an elementary school principal, two superintendents (instruction and program), the co-ordinator of communications, and the co-ordinator of pure science education. Two other committees have been formed—a language arts working committee and a mathematics working committee. Each co-ordinator acts as a liaison person between the steering committee and the appropriate working committee. The remaining members of the two working committees comprise teachers from the family of schools participating in the project. The elementary school principal is involved in the mathematics group because of his background in this subject area.

Initial discussion among the members of the language arts working committee resulted in a listing of general language arts objectives for grades 4 to 6. On the basis of these general objectives, the language arts working committee identified four content areas for the program: listening, speaking, reading, and writing. Committee members then began to define objectives for each of these four content areas. Informal reaction to the objectives was solicited from fellow staff members, resulting in a number of revisions.

Two possible future activities are being considered by members of the language arts working committee. The first may be a more formal survey of language arts teachers, employing the objectives previously identified as the basis for a questionnaire. Teachers would be asked to indicate: (a) if the objectives were presently part of their course of study, and (b) their opinion as to student performance relative to the objectives.

This information should be of assistance in establishing the curriculum's sequence and in providing a more representative basis for determining whether or not gaps exist between student expectations and performance. Additional data available through county-wide testing procedures can also be brought to bear in this analysis.

A major activity during the summer of 1974 has been the production of a draft program for teachers of Junior Division language arts that affords direction in terms of teaching-learning strategies and instructional materials. Evaluation procedures appropriate to the various objectives are presently being developed.

Members of the mathematics working committee have focused their efforts to date upon the development of terminal objectives for the Junior Division. These objectives have been established, and members have adopted a process similar to that used by the language arts working committee, of informally seeking opinions about the objectives from colleagues in their schools. The objectives include expectations for students in the following areas: reading, writing, and calculating whole numbers, fractions and decimals; set language; measurement; geometry; other number systems; mathematical history; positive attitude towards mathematics. A booklet of teaching ideas and suggestions compiled by Primary and Junior Division teachers in the county has been distributed to assist in the attainment of the stated objectives. Future activities of the mathematics working committee may concentrate upon the search for and examination of assessment instruments or parts thereof that would assist in student appraisal with respect to those objectives that are not adequately covered or are omitted by instruments presently being used.

In both mathematics and language arts, educators in this project began by preparing and evaluating objectives for student performance. As the project evolves, these objectives will be used as a basis for making decisions with respect to programming and assessment.

IX. Secondary Schools: Lincoln County Board of Education

During 1972, the Lincoln County Board of Education, through its Director of Education, investigated various procedures that could assist school personnel in identifying and eliminating needs within the board. This interest culminated in the school jurisdiction's becoming a pilot project. School personnel in Lincoln County decided that two secondary schools, Governor Simcoe and West Park, would be designated as pilot areas in the development of the Lincoln Resources Allocation System (L.R.A.S.). The experience of these two schools would provide a basis for the gradual expansion of L.R.A.S. to other schools within the county if such an expansion seemed warranted.

The project's goal is to develop an approach to effective planning and decision making for the allocation of limited resources. Six committees were formed to work with the pilot schools in order to provide participation on a wide scale. They are as follows: the planning, implementation, community contact, objectives and evaluation, budget advisory, and outreach committees. The terms of reference for each committee were designed to support L.R.A.S. activities in the pilot schools as well as to provide a base for future expansion of these developments to other schools.

The project co-ordinating group is the planning committee, consisting of trustees, a superintendent, principals, vice-principals, representatives from the non-instructional support services area, the chairmen of other L.R.A.S. committees, and the Director of Education. Other committees include similar representation.

The planning committee has the following functions:

- co-ordination and overall direction of the project;
- establishment of other committees and approval of their activities;
- communication of L.R.A.S. activities and progress to school system personnel;
- liaison with the E.R.A.S. Task Force;
- responsibility for seeing that long-term school system objectives are established.

To fulfil its duties, the planning committee has engaged in in-service sessions provided by educators from both Ontario and New York State school jurisdictions with experience in resource allocation. These sessions have assisted the committee in planning and monitoring the activities of other committees in the L.R.A.S. program. The planning committee has published bulletins to inform those not directly involved in L.R.A.S. about its developments.

In recent months, the orientation of the planning committee has shifted from a monitoring of the endeavours in the two pilot schools to a consideration of how L.R.A.S. might be expanded to a system-wide basis.

The implementation committee has two major functions: (a) informing staff about L.R.A.S., and (b) assisting or obtaining assistance for staff with respect to particular aspects of L.R.A.S.

Orientation sessions have been held with the principals and teachers of both pilot schools, and resource personnel from other L.R.A.S. committees or from outside the system have been enlisted to meet the specific needs of the pilot schools. The committee has also produced a paper entitled, "Answers to Questions Teachers Ask About L.R.A.S.".

The community contact committee was established to prepare three questionnaires for gathering parental, staff, and student attitudes

and opinions about schools. The questionnaires would provide information to help staff of the two pilot schools in three ways:

- to establish or modify goals/objectives;
- to indicate areas in which the three survey groups believed the school was doing well, or possible areas for attention;
- to indicate a consensus or divergence of opinion among survey groups.

The questionnaires also provided a model for other schools wishing to gather opinions on education.

The objectives and evaluation committee was formed to assist staff in the two pilot schools to prepare objectives and methods of evaluation. As progress has been made in the pilot schools, the objectives and evaluation committee has turned to helping other schools in the system. In this regard, the committee has begun to assemble a bank of objectives and evaluation designs.

The budget advisory committee was established to develop a chart of accounts and procedures that would permit schools to allocate their resources on a programmed basis. Decisions and recommendations from this committee were forwarded to the board for consideration and approval through the board's finance committee. In addition to board membership on the committee, representatives from local unions and from the teachers' federations have attended and contributed to its meetings.

A significant result of the budget advisory committee's efforts has been a paper entitled "Development of an Account Code". The account code will increase the availability of budgeting and accounting information for the following aspects of the school system's operation: individual schools; academic departments or divisions; subject type, e.g., English; grade or year level; phase, e.g., independent study; area of study, e.g., the four areas outlined in *H.S.I.*

Field testing of this financial information system will commence in January of 1975. Secondary schools will receive reports broken down by departments, whereas elementary schools may wish information on a divisional basis. Further refinement, into subject type or grade level for instance, could be provided if a school so desires.

The outreach committee was formed to collect information about resource allocation in other school jurisdictions. This committee consists of most members of the planning committee who are not in one of the pilot schools. The committee has examined published materials and has visited school systems in Ontario and New York State. Additionally, the committee has arranged for a few outside educators to make presentations to personnel within the Lincoln system.

Activities in the Two Secondary Schools

The two schools selected by Lincoln County personnel as pilot areas for L.R.A.S. development and implementation were chosen so that

the project would encompass educational units with differing natures. One school was relatively new and had an open-concept architectural design. Its staffing pattern and curriculum organization were oriented towards the four broad areas of study outlined in *H.S.I.* The other school was located in an older section of St. Catharines and had been developing its use as a community resource. Subject matter in this school was organized by departments.

In endeavouring to discuss developmental activities within an educational organization, it is difficult to separate events that are the direct result of introducing a concept such as L.R.A.S. from events that were previously underway. Some overlap of new methods of operation with those already in existence can be expected, since it is reasonable to use new concepts to add to and build upon what presently exists. The reader should view the developments described in the two schools as part of the long-term growth of systematic decision making. The L.R.A.S. project is a major contributor to this growth. The system-wide L.R.A.S. committees, previously discussed, were established to assist the pilot schools and thereby gain ideas that would help other schools implement the concept of resource allocation.

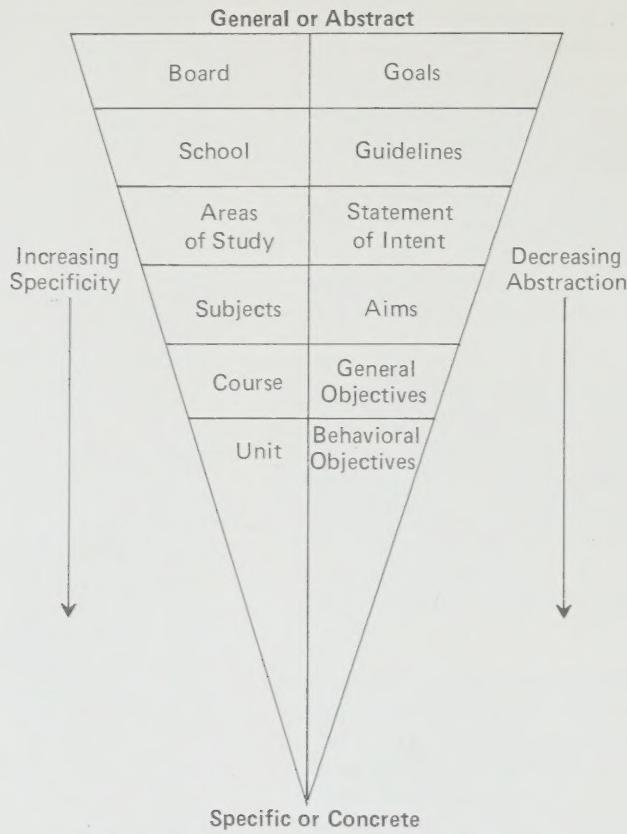
A review of the activities underway within the two schools reveals many similarities, including: (1) the development of new goals and objectives and the refinement or revision of existing ones; (2) the consideration of school priorities; (3) the improvement of evaluation procedures; and (4) the integration of budgeting and accounting procedures with curriculum matters. However, the techniques employed in and the results obtained from these activities differ, as would be expected, due to the differences between the schools, their personnel, and their students. The elaboration of some of the activities undertaken in one of the schools is provided below.

The school has a committee responsible for curriculum that includes staff representation from the areas outlined in *H.S.I.* This committee established three objectives for itself:

- to define terminology to be used in discussing the curriculum;
- to develop a conceptual framework for program planning within the areas of study outlined in *H.S.I.*;
- to compile course objectives within the conceptual framework.

In June of 1973, the first two objectives were reached. In achieving these objectives, the curriculum committee provided direction and coordination for a series of sub-committees, one of which was established for each *H.S.I.* area. During October of 1973, the committee's third intent was achieved as objectives were developed for each school course. In a number of instances, teachers have gone beyond their course objectives, having formulated purposes for units of study. Thus school personnel have developed a hierarchy of curricular "ends" that can be depicted as in Figure 6.

Figure 6: Hierarchy of Curricular Ends



Course objectives are of two types: (a) content (indicating the general nature of the material to be covered, and in some cases, how this will occur), and (b) skill (indicating learning attributes that the course will seek to provide for students). Methods of student evaluation are developed in relation to the course objectives.

The school's guidelines are listed below. An example of the hierarchy of curricular "ends" is provided, with communications as the area of study, English as the subject, and English 211 as a specific course.

Guidelines: Governor Simcoe Secondary School

1. To achieve a balanced development of the mental, physical, emotional, social, and aesthetic capacities of the individual.
2. To provide the students and teachers with the opportunity to develop at their own pace to the best of their ability.
3. To encourage students and teachers to take the initiative in accepting responsibility for their personal growth.
4. To provide a continuum of learning experiences sensitive to students, teachers, and community in the context of a changing society.
5. To assist students in forming and understanding principles on which to build their own values.
6. To provide flexibility in budget, timetabling, and daily scheduling in order to allow the realization of the preceding goals.

Communications: Statements of Intent

All subjects found in this category (i) should be concerned with man as an individual who wants to convey ideas to others, and (ii) should be concerned with man's use of language and/or non-verbal modes to express his thoughts.

English 211: Course Objectives

Content Objectives

The course examines the nature, effect and influence of the mass media through separate units dealing with Advertising, Newspaper, Magazine, Radio and Popular Music, Television, and Film.

Skill Objectives

- (1) Students will read and apply non-fictional criticism at a literary level which each can approach successfully.
- (2) Through group work and individual project approach, students will amass information and concepts which identify the characteristic natures and effects of each of the media outlined above.
- (3) Students will learn and apply analytical and critical technique to representative sample communications through each medium, and further assess, in some cases, the wider implications for society.
- (4) Students will develop discriminating awareness of the unstated often visual communication signals in the non-print media.

Evaluation

Students will be evaluated through the following methods:

1. Teacher observations of class performance
2. Teacher-evaluated student production of project work
3. Student evaluation of peer group work
4. Student evaluation of self effort
5. Very limited minor testing.²

The hierarchy of curricular "ends" provides staff members with a basis for evaluating programs. Teachers in various departments collaborate in developing the nature of their subject area and specific courses. Departmental representatives discuss their programs with the curriculum committee so that an overall integration of the school's curriculum can be obtained.

Another component of the school's planning and evaluation activities relates to budgeting and accounting. Budgets are developed within and submitted by each department as well as each instructional support aspect of the school (e.g., library). Items considered within the budget include texts, library resources, supplies, prepared and blank audio-visual resources, printing, and equipment. Departmental budgets are then consolidated by the curriculum committee, where they are rationalized in terms of the curriculum needs of the entire school. Expenditure information is recorded on an individual course basis. If a department happens to have a surplus, the allocation of these funds is a departmental matter and could even be transferred to another department.

This brief overview of the activities and accomplishments of one school indicates the progress being made towards an operational framework for systematic decision making. In summary, a guideline for the school has been developed, and the guideline has been used to formulate the school's curriculum pattern and acts as a basis for the development of (a) course and unit objectives, and (b) student evaluation procedures. Program planning and evaluation incorporates a financial dimension and is undertaken in relation to the hierarchy of curricular "ends".

While each of the activities noted is important in itself, it is the staff's ability to integrate these that contributes to the growth of systematic decision making.

Some Observations Based Upon Project Experiences

The various project overviews make it abundantly clear that it is people that make resource allocation work—not the reverse. But the notion that resource allocation is or can become a viable tool for educators, even with the availability of ample time and personnel, is overly simplistic. Obviously, other elements are desirable, if not necessary. While the previous section of this paper outlined the goals, activities, accomplishments, etc. of a number of resource allocation projects, it may perhaps be

useful to attempt to extract from these descriptions a number of common points that appear to be significant with respect to the progress experienced to date.

Before a resource allocation system is introduced, it is best to have a reasonably clear definition of either 1) the opportunity for improvement or the issue at hand or 2) the desired objective. The issue might be something as broad as a sense of dissatisfaction with the decision-making process or something as concrete as the examination and improvement of student assessment procedures in the English program. If either of the above conditions is met, resource allocation is much less likely to be looked upon as a solution in search of a problem, a situation in which an idea is usually unsuccessful. If an opportunity for improvement, an issue, or an objective exists, then the possible advantages and limitations of resource allocation can be discussed and judged rationally and logically.

It also seems practical to keep the opportunity for improvement, the issue, or the objective relatively small in scope. A general sense of dissatisfaction with the decision-making process may be adequate as an initial starting point, but is probably far too encompassing an issue to be considered as a basis for a plan of action. A gradual reduction in scope, the limitation and refinement of the issue to a school, program area, or defined activity would permit a better degree of understanding, communication, and, hopefully, commitment than would otherwise be the case. It therefore seems better to start in a manageable area and gradually increase the scope of the operation according to a certain schedule. Obviously, the reduction of the scope of the issue or objective will not ensure that the improvement is obtained or the objective achieved, but it does increase the likelihood that the concerns, difficulties, and questions that will arise in the attempt to apply resource allocation concepts will be aired and resolved.

As with any new concept, many people have formed attitudes regarding resource allocation. This does not necessarily mean that they understand it. Many people tend to treat the components of a resource allocation system in isolation from one another. Indicative of this attitude are statements such as, "Resource allocation is only concerned with financial matters," or, "It's writing goals and objectives." The problem with these statements is that they are partly true—there is a financial aspect to resource allocation, and it does emphasize goals and objectives. But when such components of the process are isolated without a clear perspective of the total system, such attitudes are not a fair representation of what resource allocation

²The preceding guidelines, statements of intent and course objectives were first published in the following publication: Lincoln County Board of Education, Governor Simcoe Secondary School: *Curriculum* (St. Catharines: Lincoln County Board of Education, 1973), pp. 6, 7, 14.

is or attempts to be. Thus, it seems sensible to explain initially the entire process. After people develop some familiarization with it, then it becomes appropriate to introduce a more careful consideration of its constituent parts. In this way, a better attitude is likely to exist, toward an exercise in writing goals and objectives, for example, because there is then an understanding of the value of goals and objectives in terms of future decisions about programming and the assessment of results.

In the development and implementation of an E.R.A.S., individual aspects of the system should not be emphasized at the expense of other aspects. Considerable time should be spent in trying to develop an understanding of the entire system. Although some difficulties and uncertainties will naturally occur in the practical application of the system, the discussion and resolution of these difficulties will lead to greater understanding. It is therefore best not to spend too much time or effort in writing objectives, for example, since no amount of time spent in this or any other type of activity is likely to guarantee perfection. Resource allocation is cyclical in nature. The more quickly the various components are integrated, the more likely there will be (1) satisfaction from tangible results, (2) an understanding of the process, and (3) a basis for future refinement.

A brief reference should be made to external involvement. Unless school personnel are accustomed to the involvement in decision making of people outside the system, it seems wise to proceed with internal staff only in the development of resource allocation. Once the staff feels comfortable with the concept, consideration can be given to the involvement of others, e.g., citizens, parents, etc.

Finally, there is the matter of leadership. Leadership appears to be an important element with respect to educational change. Evidence

indicates that the function of leadership is significant, especially during the introduction and initial cycle of resource allocation. It is also essential that school personnel continue to provide guidance throughout the process so that a framework is established and the process can be self-generating.

People who occupy positions of authority should show support and commitment to an E.R.A.S. project, even if they do not participate directly in its development. Leaders should not only support the project verbally, they should also, where possible, become personally involved in the undertaking and ensure that they understand it fully.

Leaders should be aware of all these points, since they are better able than most people to see how these matters relate to specific educational contexts. Leaders should also be able to sense the opportunities for improvement, or the issue or objective to which resource allocation may be applied. They should be sufficiently knowledgeable so that they know where to look for or to find answers to the questions raised. In working with others, leaders should seek a consensus of opinion. Fundamental change should not be brought about without consulting those affected by the changes being made. Moreover, leaders should have sufficient authority to enable them to make decisions if a consensus is lacking.

In the experience of the E.R.A.S. Task Force the implementation of a decision-making process such as an E.R.A.S. is usually gradual. What is essential is that there be a willingness to evaluate and assess continuously what is being done. Evaluation and assessment are not easy to practise except in an atmosphere of openness, support, and commitment to improvement.